

Playing on “Practice Fields”: Creating a Research and Development Culture in Academic Libraries

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One of the many challenges facing academic libraries in the current environment of massive information choices available to their users is the need to move from incremental to transformational change. This shift, already underway for all of higher education, poses enormous difficulties for libraries as they attempt to maintain legacy services and collections in the face of the digital onslaught, user-created content, and ubiquitous information choices, while creating, in a piecemeal fashion, new services that add value to new generation of students and scholars.¹ Many new services are “new” only in a narrow sense. For example, in recent years many libraries developed virtual or chat reference services employing CRM (Customer Relationship Management) software, adapted for the academic library environment. Certainly, the technology itself was new for libraries, and some of its affordances were new, but such a service was more additive than transformational for libraries—valuable as one more channel through which libraries can provide reference assistance. Genuine innovation involves fundamental rethinking and revisioning of products and services with the transformed external environment in mind, as Deiss has noted². As academic libraries examine that external environment, they will be confronted with the challenge of younger users who associate libraries only with “books,”³ with faculty who increasingly bypass the library or do not see its relevance to their scholarly needs,⁴ and with college and university administrators who seek new measures of accountability, including “return on investment.”⁵

Academic libraries are faced with disruptive changes in technology and in work practices and research behaviors of their clientele. The implications of these changes have been examined by leaders in academic and research libraries⁶—focusing on questions of academic library roles, services, collections, and internal organization. The disruptions are so profound that incremental changes implemented by libraries will not suffice to position them favorably in their institutional contexts in the future. Legacy services alone will not assure continued support in a time when colleges and universities are rethinking their very purposes and goals in light of demographic changes, shifts in the economy and related change in the job market and the professions, and the digital transformations in research, scholarship, and professional communication. More than ever, academic libraries must be closely attuned to their clientele—knowing their changing preferences, habits, and research information needs; and such attunement can only occur through a cultural shift toward ongoing assessment within a risk-taking, innovative, experimental organization. Some resources currently devoted to collections and traditional services must be reallocated to reinvention of the library organization so that it is much more closely aligned with users’ needs. As David Nicholas noted in a presentation at a recent digital library symposium, “how many libraries [have] a department dedicated to following the users every move and relating that to academic outcomes and impacts?”⁷

To achieve this deeper engagement with the academy, academic libraries need “innovation

systems”, a model from the corporate world, in order to foster innovation and creativity and to develop new products and services that allow the library to become more integral to the academic enterprise—in more specific terms, essential to the research productivity, enhanced work practices, transformed learning, and collaborative capacities of all members of their institutions. Such an “innovation system” will create a “research and development” culture in academic libraries: these will be based on “test beds”, laboratories, and other enterprises that conduct research and then apply it to the creation of new products, services and practices for diffusion and adoption by the library as a whole, for internal work process improvement, or more directly for users, in the form of transformed interactions with scholarly content and with the expertise of library staff. These “test beds” are what Deiss calls “practice fields”: safe environments where ideas can germinate and result in prototypes for new services and products, and be tested rigorously, before diffusion and possible adoption⁸. Extending these “test beds” or laboratories for experimentation to active participation from students, faculty, and others will increase engagement with the full range of the library’s clientele, thereby changing the culture of the library itself as it reinvents its services—an open experimental culture that welcomes participation from the rising generation of students and new scholars, particularly in Web 2.0 applications, is likely to change the image of the library to one that co-creates its future with its users. This engagement through open “research and development” (a shift from the older, ‘closed’ R & D model of the corporate world, with significant intellectual property/company intelligence strictures) will produce a more vibrant, collaboratively attuned library, one involved in creating new knowledge and practices that improve the lives of all its users.

One library leader who has written and spoken of the need for an “R & D culture” in academic libraries, James Neal, has noted his experience with two R & D organizations, the Digital Knowledge Center at Johns Hopkins University, and the Center for Information Technology Research and Development, at Columbia University. Neal has written of the characteristics of these organizations: as centers for experimentation and knowledge creation, as solution-seeking enterprises that seek external funding to innovate and sustain innovation, and that are linked to moving the “digital library” concept forward.⁹ Neal further links these units with expanded collaborative capacities and with improving the ability of practicing librarians to engage in research in their own field and to communicate the results to solve widely known problems in libraries and in their services. He poses a number of questions about these enterprises, focused on such matters as: should R & D activities be concentrated in one unit, or distributed throughout an organization? Should such activities be project based, or sustained at the organization level? What kinds of competencies are needed for staff to participate? How will an R & D unit be funded?¹⁰

These R & D units described by Neal focused on digital publishing, scholarship, and communication, but their projects have broad implications for instructional materials, reinvention of work processes in libraries, fostering interdisciplinary collaborations, merging of technologies and blending of scholarly genres, and reacculturating the entire library organization toward innovation and targeted risk-taking. They meet, as Neal has written elsewhere, the “entrepreneurial imperative”: the ability to deploy resources to solve real problems faced by scholars, students, and others, and to create new products in collaboration with their varied user communities to solve those problems.¹¹

A Look at the Current R & D Environment in Libraries

This paper investigates, through an environmental scan, the extent to which academic

libraries in 2008 are creating “Research and Development” cultures, units, positions, and planning processes in their libraries. Specific documents publicly available were examined: strategic plans, annual reports, and related documents of 32 ARL and non-ARL libraries (see appendix 1); the organization charts of 23 ARL and non-ARL libraries (see appendix 2); and 22 carefully selected job postings, from the calendar year 2008, from The Chronicle of Higher Education, the ALA JobList, the ARL Careers Database, and the Educause Job Opportunities Listings (see appendix 3). Further investigation of the R & D environment for academic libraries occurred through review of session abstracts from Coalition for Networked Information’s Fall and Spring Project Briefings (available at <http://www.cni.org>). Further study occurred through review of library web sites and through a traditional literature review covering the period 2006-2008.

The most salient findings from this environmental scan are:

1. *Implicit R & D, with occasional mission-critical descriptions of R & D as strategically important*: Research-and-development activities are interlaced or interwoven implicitly into many strategic goals, projects, positions, and activities of academic libraries. Strategic plans and visioning documents of libraries often call for “creativity, “innovation,” and occasionally, of “entrepreneurship” and “risk-taking” as a value. Large-scale reorganization/realignment to create R & D activities in libraries is not widespread, but is often accommodated within existing organizational structures, through creating new positions focused on R & D work, or generated through start-up funding from external sources (grants). One university library’s strategic plan that calls explicitly for R & D is the University of California/San Diego: under its Strategic Direction #1, “The UCSD Libraries will be innovators in the development and management of digital information resources. . .” it lists as its first strategy, “Conduct research and development to determine the best ways to build and manage digital resources.” (UCSD Libraries Strategic Plan, 2006-2009, p. 1)

2. *A shift to R & D is a cultural matter*: research-and-development is as much a matter of values and priorities as of operational planning. A culture of experimentation develops in an explicitly created environment where “safe risk-taking” is encouraged. For example, the University of Southern California Library’s Strategic Plan speaks of “innovation” as a foundational value, one that encourages “informed risk-taking” concerning the “advantages of evolving technology, while respecting the collections and technologies of the past.” (USC Libraries Strategic Plan, p. 7)

3. *Current R & D work happens in many libraries through single positions, or very small units or projects*. Research-and-development is most frequently associated, of course, with technological innovation, and with certain type of staff positions identified as the bearers of innovation. In the 2008 calendar year, a review of job announcements in academic libraries and related organizations identified the following position titles (among others) associated with technological innovation (see appendix 3):

- Informatics/Digital Projects Librarian
- Academic Technology Librarian
- Digital Services Librarian (more than one posting)
- Director, Center for Media and Educational Technologies
- Digital Studio Technology Specialist
- Emerging Technologies Librarian
- Research Librarian for Emerging Technologies and Service Innovation
- Librarian for Emerging Technologies

- Director, Center for Instruction, Research, and Technology
- Web Technologies, Content & User Interfaces Librarian
- Librarian for Digital Humanities Research
- Public Services Archivist for Emerging Technologies

A review of all of these position announcements suggests an increasing focus on research-and-development through recruiting a certain type of individual, with certain skill sets focused on adopting either commercial or open-source software to local needs, to improve use of systems. Most individual position announcements that focus on “emerging technologies” do not call for creating totally new solutions in-house, but rather for innovative applications of software developed elsewhere, or through entrepreneurial activity for combinations of various commercial or open-source software. Such activities, of course, involve applied research, experimentation, and testing--all R & D activities. However configured, individual positions possessing an R & D element may contribute to initial “test bed” experimentation or innovation, but scaling issues will mean that such expertise and creativity may not be sustained over time. One interesting variation for an individual position is the Gray Family Chair for Innovative Library Services at Oregon State University, an endowed position that is designed to advance the Libraries’ role in the world of the digital information infrastructure (Oregon State University Libraries Strategic Plan, pp. 1, 8).

4. *Large-scale impacts of R & D occur through strategic investments and strategic direction-setting, with from grounding in research beyond occasional experimentation and innovation.* Wider diffusion of research-and-development activities implies a more intentional, strategic approach from library leadership, with concomitant organizational changes, including redesign of positions, units, planning processes, and a shift toward a more entrepreneurial culture. Review of strategic plans and organizational charts of major ARL and some non-ARL libraries reveals that intentional planning for R & D is implicit, or linked with other priorities (such as assessment), or most often, associated with the development of “the digital library” or with enhancing resource discovery tools and processes for users. Examples of institutions with more intentional, larger-scale approaches are relatively few. An exemplar of an R & D unit focused on R & D work for the “digital library” is the Digital Library Development Lab at the University of Minnesota¹². The University of Minnesota Libraries are engaged in a number of ongoing research projects to support scholars in a range of disciplines, ranging from the humanities and social sciences to agricultural economics, and has obtained grants to support several such projects.¹³ The MIT Libraries have also created a Digital Library Research Group, which has worked on a number of grant-funded projects especially focused on knowledge management, digital curation, resource discovery, and open access publishing; the Annual Report for 2008 of the MIT Libraries emphasizes the research component of R & D partnerships. (MIT Libraries Annual Report). Other notable examples of research-and-development partnerships are found at Columbia University Libraries, whose strategic plan envisions “sandboxes” for “collaborative development work” between IT staff and libraries. Columbia’s plan envisions “developing new service models and organizations” and offers as examples the reorganized Information Services organization that also includes the Columbia Center for New Media Teaching and Learning, the Digital Knowledge Ventures, and the Electronic Publishing Initiative. (Columbia University Libraries Strategic Plan, p. 3-4).

Intentionality regarding research-and-development is rising in importance for other libraries, as in the case of UCLA: its Libraries’ strategic plan envisions an “integrated suite of innovative, user-centered services” that will require the library to “develop its organizational

capability for experimentation in order to provide its staff with the knowledge, flexibility, potential, and authority to pilot, manage, and advance client-centered services and systems.” (UCLA Libraries Strategic Plan, pp. 12-13).

5. *Leveraging existing organizational structures to engage in R & D may be an option for some libraries.* A potential organizational structure (beyond the individual R & D expert and the separate compartmentalized R & D unit) is the cross-functional team. Numerous libraries have experimented with teams as one way of improving library processes and effecting culture change; what is less apparent in such team environments is explicit recognition of their potential research-and-development role in creating test beds for innovation. One notable team-based organization, the University of Maryland Libraries, assessed the effectiveness of its teams, and the importance of continuous learning of individual team members and the collective learning of teams looms large in the efficacy of the entire organization in conducting enterprise-level improvements. Writing of the University of Maryland experience, Sue Baughman has pointed out that “innovation and risk-taking will increase as the development of the collective whole is strengthened.”¹⁴ Significant questions concerning the role of teams in R & D work must, of course, be addressed: those relating to appropriate combinations of expertise, knowledge, and skill among team members; and the resources made available to them for sustainable innovation.

6. *“Federated” R & D work can address large inter-institutional or intra-institutional challenges, focused on large problems in the contemporary research environment.* Opportunities for academic libraries to engage in research-and-development projects also arise either through intra-institutional partnerships, such as initiatives with digital humanities centers, informatics centers, and global education centers, or through projects and initiatives beyond their own campuses—partnerships involving groupings of libraries or libraries and other organizations (museums, schools, nonprofit organizations). Because interdisciplinarity is refocusing large sectors of the academy, libraries will need to seek congruence or alignment with those initiatives and projects at their own institutions that seek to solve large problems in an interdisciplinary way. Some research-and-development initiatives underway manifest alignment of expertise among multiple types of organizations—the University of Illinois Libraries, for example, are at the center of the Illinois Informatics Initiative, whose purpose is to “invent the information systems of the future” through concerted action among multiple partners throughout the university; in this way, “the Library will serve as a laboratory for research and applications of research.” (University of Illinois Libraries Strategic Plan, 5/30/2006; pp. 20-21). Organizations such as the Digital Library Federation and new clusters of institutions working on digital humanities scholarship, such as the Bamboo Project, capitalize on the expertise of member institutions as part of their R & D agendas.¹⁵ The ever-more converging missions of academic libraries and academic computing centers suggest compelling reasons for expanding research-and-development, drawing in other units and scholars focused on digital humanities, e-science projects, teaching/learning centers, research offices, and others.

The main points from this environmental scan can be summarized: (1) research-and-development work in individual libraries is widely present, but often scattered and not always intentional through reorganization and present in strategic planning, (2) most research-and-development work is currently focused on digital library development and improvement of resource discovery, (3) single positions focused on entrepreneurial undertakings and research-and-development often focus on applications of existing technologies rather than a holistic research-and-development cycle, (4) other existing structures such as teams might be productively used for some research-and-development projects, and (5) interdisciplinary

partnerships involving alignment of appropriate expertise between libraries and other units on or beyond their campuses offer opportunities for large-scale testing of innovations; the appropriate staff expertise for forming such partnerships for productive R & D work at this level is a large question mark for many libraries.

Some Barriers to R & D in Academic Libraries

Deiss has written of cultural issues in libraries that may impede innovation (and thereby a shift for effective R & D to produce new products, services, and programs): the tendency of mature organizations like libraries to seek continuity and certainty and to devalue risk-taking; the firm adherence to professionally-developed standards; the high value placed on professional expertise rather than “play” as a catalyst for creative revisioning of problems; and the absence of zones of experimentation or “practice fields” for testing novel solutions¹⁶. These deeply ingrained cultural values, habits, and ways of thinking pose significant challenges for library leadership if it seeks to develop a culture of innovation, experimentation, and risk-taking, which are all part of productive research-and-development. The often nascent and occasionally intentional R & D work identified in libraries through this preliminary environmental scan suggests that library leaders will need to develop strategies to promote a culture of innovation and risk-taking appropriate for their own libraries and that fit within their own campus cultures. Variations among institution types, librarian roles (faculty/non-faculty), staff sizes, available resources, and presence of potential R & D partners mean that research-and-development will need to be customized for institutional fit. However, the barriers to innovation described by Deiss, when acknowledged as such as part of an organizational development program and strategic planning process, can lead to fundamental reorientation of many library staff toward a research-and-development culture, regardless of the specific practices, positions, or organizational structures may be developed to promote this reorientation toward risk-taking and innovation. As Neal observes, “all libraries of all missions and sizes can produce new knowledge and communicate research results to others.”¹⁷ Strategic investments in R & D, and allocation of resources to R & D units, are looming questions for all academic libraries. Library leaders need to reorient their own thinking to address these resource allocation challenges, to decide where to position expertise and resources, to conduct cost-benefit analyses regarding local or in-house innovation or collective action through “federated”, consortial, or other combined approaches with other types of organizations. Perhaps the largest question, beyond that of resources, organizational structures, and new types of positions, is that of the essential research expertise that can be recruited into, or developed within, library organizations to create new services and products. A related challenge is whether such research expertise can be more widely developed throughout a library organization. The ability to collaborate effectively in multi-disciplinary research-and-development, across organizational lines and cultural divides, is a challenge. But in the future, librarians will need to engage in research and develop new products and services for scholars and researchers through collaboration with computer scientists, media experts, digital production staff, linguists, data scientists, software engineers, neuroscientists, anthropologists, and others unknown at this time, depending on the expertise needed for specific projects.

Recommendations to Promote a Research-and-Development Culture

Academic libraries must invest in, and plan for, research-and-development in more

concerted, intentional, and deeper ways in order to create innovations that last and that add value for scholars, scientists, students, and researchers of every category. A fundamental orientation away from investments in, and planning for, *only* traditional or legacy services is an urgent priority for library leaders; they must find paths to the future by inventing it through reacculturated organizations. Although each library must develop its own R & D practices, structures, and priorities, some suggestions for realignment toward research-and-development and innovation follow from this environmental scan:

1. Diffusing innovation and R & D practices throughout the library should become a priority. A single position focused on research-and-development may not have sufficient impact, even as an evangelist for innovation. Research-and-development needs to become a strategic priority at the enterprise or organizational level. A central R & D cluster, hub, or unit may take leadership for coordinating such activities, but all units should become invested in applied research and solution of significant problems for the good of the organization and the library's clientele.

2. Creativity, risk-taking, and innovative thinking flow from a sense of serious "play" and inventing prototypes for new services and products. The physical environment within which library staff usually work militates against innovative thinking: siloed (physically separate) departments, individual offices or cubicles. Library managers need to rethink work spaces—redesign for collaboration, involving flexible arrangements, open communication, and appropriate materials and technologies for developing ideas and prototypes needs to become an imperative. One of the world's best-known design firms, IDEO, based on Palo Alto, California, features unconventional work spaces developed by its own staff—one characterized by openness and group collaboration to create a pervasive sense of experimentation, serious play, and collective action focused on design problems and challenges.¹⁸

3. The Libraries' strategic planning process presents a prime opportunity for reorienting staff thinking toward innovation, creativity, risk-taking, applied research, and reinvention of processes; if research-and-development is the driver or engine for improvement of services and products offered by the library, then it needs to be addressed explicitly as a strategic priority, and identified as a priority for every individual, team, department, workgroup, or unit.

4. Each library will need to shape its own "zones of experimentation" or test beds for innovation. Some may be distinct units located in a definite physical location, while others may be cross-department clusters of expertise who work virtually and, on occasion, face-to-face. The opportunity to involve the library's users in experimental technologies, at various stages of their development, should not be overlooked: an excellent example is the MLibrary Labs at the University of Michigan, where technologies still under development in a test environment are made available for public testing and feedback.¹⁹

5. Libraries need to apply some of the techniques and strategies of the business and engineering firm in order to infuse R & D practices into their work. One example is the technique of "rapid prototyping", used at the IDEO design firm, involving the use of a series of prototypes quickly developed through creative brainstorming among a design or R & D workgroup, which are rapidly improved through collective expertise.²⁰ Libraries' organizational structures, often dependent upon slow-moving committees or even more focused task forces, cannot often develop the nimble modeling needed to solve problems faced by users in a Web 2.0 world.

6. Academic libraries are moving rapidly toward an assessment culture, through such instruments as LibQualTM and other methodologies such as ethnographic research. Library leaders should capitalize on the improvement processes flowing from such assessment methods to

promote applied or practitioner research more explicitly, and should align R & D more intentionally with targeted assessments and resulting data supplied by users of the library. Evidence-based decision-making should become a pervasive feature of organizational life—this change, in turn, reinforces the habits of thought needed for “action research” throughout the organization, which supplies data and evidence needed for innovation.

7. Sustainability of R & D initiatives is a perennial concern in any organization. Libraries that devote start-up funds to innovative projects without reconfiguring budgets to accommodate their growth do not progress, obviously, with research-and-development in a strategic way. The lessons learned from a recent Survey of Digital Humanities Centers²¹ point up the need for selecting a sustainable model for research-and-development—one customized to the institution, that transcends the “silo” effect of a local center of expertise that does not share its innovations transparently or widely, and that finds partners where synergies of complementary expertise and resources are possible.

The “entrepreneurial imperative” of which Neal wrote just a few years ago²² has become ever more urgent. The massive shift of information resources to the Web, and the accelerating changes in user behavior that bypass the library as center for scholarship and critical thinking, argue for a transformational strategy in response from academic libraries, rather the incremental or additive steps. That transformational strategy becomes most compelling for library staff and their collaborators outside libraries and across institutions, through a liberating, dynamic, re-envisioned role: that of researcher effecting transformative change through applied research; that of collaborative risk-taker co-creating the future library with the user; and that of the entrepreneur or developer of new services and products whose creativity reinvents the academic library itself.

Notes

1. Veronica Reyes, “The Future Role of Academic Librarians in Higher Education,” *portal: Libraries and the Academy*, 6, no. 3 (2006), http://muse.jhu.edu/journals/portal_libraries_and_the_academy/v006/6.3reyes.html.
2. Kathryn Deiss, “Innovation and Strategy: Risk and Choice in Shaping User-Centered Libraries,” *Library Trends*, 53, no. 1 (2004): 18-20.
3. Cathy De Rosa et. al., contributors. *Perceptions of Libraries and Information Resources: A Report to the Membership* (Dublin, Ohio: OCLC Online Computer Library Center, Inc., 2005), <http://www.oclc.org/reports/2005perceptions.htm>. See especially Part 3 of this report.
4. Ross Housewright and Roger Schonfeld, *Ithaka's 2006 Survey of Key Stakeholders in the Digital Transformation of Higher Education* (August 18, 2008). Available at <http://www.ithaka.org/publications/facultyandlibrarians-surveys.5>.
5. Paula T. Kaufman, “The Library as Strategic Investment: Results of the Illinois Return on Investment Study,” *LIBER Quarterly: The Journal of European Research Libraries*, 18, no. 3/4 (2008), http://liber.library.uu.nl/publish/issues/2008-3_4/?000269.
6. David Lewis, “The Innovator’s Dilemma: Disruptive Change and Academic Libraries,” *Library Administration and Management*, 18, no. 2 (2004): 68-74. Available at <https://idea.iupui.edu/dspace/bitstream/1805/173/2/Lewis%20Innov%20Dilemma.pdf>; Wendy Lougee, *Emergent Roles for the Research Library in the Digital Age*, (Washington, DC: Council on Library and Information Resources, 2002); available at <http://www.clir.org/pubs/abstract/pub108abst.html>.

7. David Nicholas, "How Users Behave (and What Libraries Should Do)," CIBER/School of Library, Archive and Information Studies, University College, London; Presentation given at *Sustaining the Digital Library Symposium*, Edinburgh University, 2007. Available at <http://www.lib.ed.ac.uk/lib/presentations/sympo07/Nicholas.ppt#1>.
8. Deiss, p. 25.
9. James Neal, "The Research and Development Imperative in the Academic Library: Path to the Future," *portal: Libraries and the Academy*, 6, no. 1 (2006), http://muse.jhu.edu/journals/portal_libraries_and_the_academy/v006/6.1neal.pdf
10. Ibid.
11. "The Entrepreneurial Imperative: Advancing from Incremental to Radical Change in The Academic Library," *portal: Libraries and the Academy*, 1, no. 1 (2001), http://muse.jhu.edu/journals/portal_libraries_and_the_academy/v001/1.1neal.pdf
12. The mission, goals, and projects of this Lab are described at <https://wiki.lib.umn.edu/IT/DigitalLibraryDevelopmentLab>.
13. The research projects of the University of Minnesota Libraries are described under "Research in Progress" at <http://www.lib.umn.edu/site/about.phtml>.
14. Sue Baughman, "Assessment of Teams and Teamwork in the University of Maryland Libraries," *portal: Libraries and the Academy*, 8, no. 3 (2008), http://muse.jhu.edu/journals/portal_libraries_and_the_academy/v008/8.3.baughman.html, p. 295.
15. The "federated" approach to R & D can be seen in the projects of both the DLF and Project Bamboo at <http://www.diglib.org/> and at <http://projectbamboo.org/>
16. Deiss, pp. 22-26.
17. Neal, "The Research and Development Imperative," p. 3.
18. The IDEO culture and practices are well described in: Tom Kelley, *The Art of Innovation: Lessons in Creativity from IDEO, America's Leading Design Firm*. New York: Random House, 2001.
19. See examples of projects and products released as prototypes in MLibrary Labs at <http://www.lib.umich.edu/labs/>.
20. Kelley, pp. 103-118.
21. Diane Zorich, *A Survey of Digital Humanities Centers in the United States*. Washington, D.C.: Council on Library and Information Resources, November 2008. Available at <http://www.clir.org/pubs/reports/pub143/pub143.pdf>.
22. Neal, "The Entrepreneurial Imperative."

Appendix 1: Annual Reports, Strategic Plans, & Related Documents

All documents on this list are linked from library web sites.

Annual Report, MIT Libraries, 2008.

Recent Accomplishments Newsletter, University of Michigan Library, December 2007. Available at <http://www.lib.umich.edu/about/libraryaccomplishments.pdf>.

Boston University Libraries, Strategic Plan, 2006-2008.

Brigham Young University Libraries. Strategic Directions with 2007-08 Operational Objectives.

University of California at Berkeley. Statement of Values, UC Berkeley Library, 2000.

University of California at Los Angeles. UCLA Library Strategic Plan 2006-09.

University of California at San Diego Libraries: Strategic Plan, 1 July 2006—30 June 2009.

Colorado State University Libraries. 2008 Strategic Plan Action Agenda.

Columbia University Libraries. Strategic Plan, 2006-2009.

Cornell University Library: Goals 2007-2010.

Duke University Library. Connecting People + Ideas: A Strategic Plan, 2006-2010.

Emory University Libraries: An Overview of the Five Year Strategy for the Emory Libraries, 2007-2012.

[Georgia Tech]. Commitment to Excellence: A Strategic Plan for the Georgia Institute of Technology Library and Information Center, 2007-2011.

University of Guelph Library Integrated Plan: 2006-2010.

University of Illinois/Champaign-Urbana. University Library Strategic Plan, 5/30/06.

Indiana University Libraries. Digital Library Program Strategic Plan, 2005-2008.

Kansas State University Libraries. A Living Strategic Plan, 2007-2012.

McMaster University Library: Strategic Directions 2008-2011.

[University of Nevada/Las Vegas]. University Libraries Strategic Goals and Objectives, extracted from: A Strategic Plan for the UNLV Libraries, 2005-2010.

The University of North Carolina at Chapel Hill Library. Library Directions 2005-2010.

Northwestern University Library. Strategic Plan, FY2008-10.

The Ohio State University Libraries Vision and Mission Statements.

Oregon State University Libraries Strategic Plan.

University of Pittsburgh Long-Range Plan, 2007-2010.

Purdue University Libraries. Strategic Plan 2006-2011.

University of Southern California. The Essential Library: The USC Libraries' Strategic Plan.

University of Texas at Austin Libraries. Mission and Goals, 2008-2010.

Texas Technological University. University Libraries Strategic Plan.

Tufts University. Tisch Library Strategic Plan, FY09-FY11.

Virginia Polytechnic Institute and State University. Library Strategic Plan, 2007-2008.

The University of Wisconsin at Madison. The UW-Madison Libraries: A Digital Decade/Libraries Transformed 1998-2008.

Worcester Polytechnic Institute. Report of the Library Task Force. October 25, 2007.

Appendix 2: Organization Charts of Selected Academic/Research Libraries

All organization charts given here are linked from library web sites.

Boston College Libraries

Brown University Library

SUNY/Bufalo

The University of California at Berkeley Library

The University of California at Los Angeles Library

University of Connecticut Libraries

Cornell University Library

Dartmouth College Libraries

Duke University Libraries

University of Florida/George A. Smathers Libraries

Florida State University/Libraries

Georgia Tech Library & Information Center

University of Minnesota Libraries

University of Tennessee Libraries

University of Texas Libraries

Texas Technological University Libraries

Vanderbilt University Library

University of Virginia Libraries

Virginia Tech Libraries

University of Washington Libraries

Washington State University Libraries

Wayne State University Libraries

Yale University Libraries

Appendix 3: Selected Job Announcements in Academic/Research Libraries and Other Organizations, 2008

All job postings from: The Chronicle of Higher Education; ALA JobList; ARL Careers Database; and Educause Job Opportunities.	
Title of position	Institution
Informatics/Digital Projects Librarian	University of Vermont/Dana Medical Library
Special Projects Librarian/Library Information Technology & Technical/Access Services	University of Michigan
Librarian of Lamont Library	Harvard College Library
Sciences Liaison Librarians	Colorado State University Libraries
Academic Technology Librarian	Pratt Institute Libraries
Digital Library Programmer/Analyst	George Mason University Libraries
Director, Center for Media and Educational Technologies	University of Oregon/Knight Library
Assistant/Associate University Librarian For Outreach and Academic Services	University of California/Santa Barbara Libraries

Digital Studio Technology Specialist	New York University Libraries
Public Services Archivist for Emerging Technologies	Yale University/Sterling Library
Librarian for Digital Humanities Research	Yale University Library
Librarian for Emerging Technologies	Yale University/Goldman Law Library
Digital Project Librarian	Notre Dame University Libraries
Research Librarian for Emerging Technologies and Service Innovation	University of California/Irvine Libraries
Head of Digital Technologies	University of Utah Libraries
Digital Services Librarian Director of Research and Instructional Support	Tulane University Libraries Mount Holyoke College
Research Librarian	Schweitzer Engineering Laboratories
Data Service Librarian	New York University Libraries
Title of position	Institution
Manager, Next Generation Learning	Cuyohoga Community College
Director, IT—Research Support, Information and Scientific Visualization	Duke University
Program Director, e-research and e-scholarship	Educause
Director, Center for Instruction, Research, and Technology	Indiana State University
Head of Research Services	Harvard University/Widener Library
Emerging Technologies Librarian	University of Virginia/Health Sciences Library
Online Services Librarian	Texas A & M Library/Medical Sciences Library
Director, Digital Library Technology Services	New York University Libraries
Head of Digital Services and Scholarly Communication	Texas A & M University Libraries
Digital Services Librarian	Georgetown University Library

Web Technologies, Content & User Interfaces Librarian	University of Miami Libraries
Coordinator of Digital Initiatives	University of Oklahoma Libraries
Head of Media Services	Virginia Military Institute Library
Director of Digital Initiatives	Thomas Jefferson University Library